

## Dr. Geert Verheyden

### Short CV

Geert Verheyden is a physiotherapist by background who obtained an MSc (cum laude) in Rehabilitation Sciences and Physiotherapy from KU Leuven (Belgium) in 1997 and an MSc in Neuromotor Rehabilitation Sciences and Physiotherapy (magna cum laude) from KU Leuven in 1998. After two years of clinical work as neurophysiotherapist in Germany, he returned to KU Leuven where he became research and teaching assistant and obtained his **PhD in 2006** on the topic of trunk impairment after stroke (promotors: Willy De Weerd and Alice Nieuwboer). From 2006-2010, Verheyden was **post-doctoral researcher** at the Stroke Rehabilitation Research Centre (PI: Ann Ashburn) at the University of Southampton (UK). Subsequently, he was Professor of Neurorehabilitation at the University of Applied Sciences in Bochum (Germany) contributing to the first stand-alone academic BSc educational program in physiotherapy in Germany. In 2011, Verheyden returned to KU Leuven as **Assistant Professor from 2011-2016**.

Since 2016, Verheyden is appointed as **Associate Professor** at the Department of Rehabilitation Sciences at KU Leuven where he is the **Stroke Rehabilitation Research Lead** with currently **over 70 peer-reviewed publications** and an **h-index of 23** (Scopus). Verheyden is main supervisor of 6 PhD researchers and co-supervisor of 5 PhD researchers. So far, he was (co-)supervisor of 5 completed PhD projects and supervised 2 post-doc researchers. His team focuses on sensorimotor assessment, recovery and rehabilitation of upper limb and trunk deficits in all stages after stroke through methodologies that include systematic review and meta-analysis, clinical assessment, objective (robot-based) quantification, real-life (sensor-based) technology, neurophysiological (EEG, TMS, tDCS) investigation and neuroimaging (VLSM, resting-state fMRI).

His **work is funded through KU Leuven, national and international grants**, in the last five years for more than 4.9 million euro. Examples of successful grant funding are:

- Departmental PhD bursary (Sarah Meyer), 2011-2015, PI: Verheyden, ~160k EUR. Recovery after stroke: long term outcome and upper limb somatosensory function.
- KU Leuven Special Research Fund, 2015, PI: Jean-Jacques Orban de Xivry, ~87k EUR. Translational platform for the upper limbs.
- Supervisor for FWO (Research Fund Flanders) Fellowship (Nele De Bruyn), 2016-2020, ~175k EUR. Behavioral and brain connectivity analysis of upper limb sensorimotor rehabilitation post stroke.
- Co-PI for Horizon 2020 Eurostars project, 2017-2020, ~1,3M EUR. T-CHAIR – A novel rehabilitation device for trunk stability and control. Verheyden leads the clinical study work package.
- FWO (Research Fund Flanders) Hercules (medium-sized equipment) grant, 2018, PI: Dante Mantini, ~798k EUR. Integrated platform for closed-loop motor training and adaptive neuromodulation.
- KU Leuven 2-year C2 grant, 2018-2020, PI: Verheyden, ~106k EUR. Towards understanding upper limb rehabilitation after stroke.
- Supervisor for FWO (Research Fund Flanders) Fellowship (Bea Essers), 2019-2023, ~195k EUR. Upper limb sensorimotor rehabilitation after stroke: determining long-term outcome and understanding observed versus perceived function.
- FWO (Research Fund Flanders) project grant, 2019-2023, PI: Hilde Feys, ~434k EUR. Neurological factors challenging bimanual motor control and treatment response in children with unilateral cerebral palsy.

Verheyden has a **mixed portfolio** including research (50%), teaching (40%), and clinical service (10%). He is course coordinator of four neuro modules in the BSc and MSc programs and one interdisciplinary module in the MSc program. Verheyden coordinates the interuniversity major neurological rehabilitation as part of the MSc program. He is an **enthusiastic educator** receiving good to very good formal teaching evaluations, steering a team of teaching assistants delivering high quality education as well as learning innovation.

The **clinical service** comprises a 10% PT role at the University Hospitals Leuven, Stroke and Head Injury Rehabilitation Unit, and managing a two-yearly cycle of external and internal post-graduate education.

Verheyden held and holds various **development and leadership positions**; currently head of the Neurorehabilitation Research Group (eNRGy), comprising 7 PIs and >25 ongoing PhD projects, coordinator and co-chair of the 2018 Upper Limb Stroke Rehabilitation Summer School, from 2011-2018 secretary of the educational committee overseeing the BSc and MSc Rehabilitation Sciences and Physiotherapy programs, university evaluator for teaching portfolios submitted by tenure track staff as part of their promotion application, member of the scientific committee of the 5th European Congress on Physiotherapy Education (11-12 Sep 2020),

fellow and member of the Neurorehabilitation committee of the European Stroke Organization, founding member and treasurer of the Belgian Society for Neurorehabilitation.

**Five key publications (full list see: <http://lirias.kuleuven.be/cv?Username=U0029759>)**

- Denissen, S., Staring, W., Kunkel, D., Pickering, R. M., Lennon, S., Geurts, A. C., Weerdesteyn, V., **Verheyden, G.** Interventions for preventing falls in people after stroke. *The Cochrane database of systematic reviews* 2019;10(10), CD008728. [IF 2018=7.755]
- Boccuni, L., Meyer, S., Kessner, S. S., De Bruyn, N., Essers, B., Cheng, B., Thomalla, G., Peeters, A., Sunaert, S., Duprez, T., Marinelli, L., Trompetto, C., Thijs, V., **Verheyden, G.** Is there full or proportional somatosensory recovery in the upper limb after stroke? Investigating behavioral outcome and neural correlates. *Neurorehabilitation and Neural Repair* 2018;32:691–700. [IF 2018=3.757]
- Brunner I., Skouen J., Hofstad H., Becker F., Sanders A., Pallesen H., Kristensen L., Michielsen M., Thijs L., **Verheyden G.** Virtual reality training for upper extremity in subacute stroke (VIRTUES) A multicenter RCT. *Neurology* 2017;89:2413-2421. [IF 2018=8.689]
- Meyer S., De Bruyn N., Lafosse C., Van Dijk M., Michielsen M., Thijs L., Truyens V., Oostra K., Krumlinde-Sundholm L., Peeters A., Thijs V., Feys H., **Verheyden G.** Somatosensory impairments in the upper limb post stroke: distribution and association with motor function and visuo-spatial neglect. *Neurorehabilitation and Neural Repair* 2016;30:731-742. [IF 2018=3.757]
- Meyer S., **Verheyden G.**, Brinkmann N., Dejaeger E., De Weerd W., Feys H., Gantenbein A., Jenni W., Laenen A., Lincoln N., Putman K., Schuback B., Schupp W., Thijs V., De Wit L. Functional and motor outcome 5 years after stroke is equivalent to outcome at 2 months. Follow-up of the collaborative evaluation of rehabilitation in stroke across Europe. *Stroke* 2015;46:1613-1619. [IF 2018=6.046]

**Other scientific output and impact**

Verheyden impacts on the field of physiotherapy in general and stroke rehabilitation in particular;

- Since 2016, **Editor-in-Chief** of the international peer-reviewed Q1 journal *Physiotherapy Research International* for which he steers a team of 7 international handling editors.
- **Co-editor** of 'Physical Management for Neurological Conditions', 4<sup>th</sup> edition published by Elsevier, the up-to-date evidence-based textbook for neuromotor rehabilitation.
- Regular **invited speaker**, for instance European Congress of Neurorehabilitation (Oct 2019), UK Stroke Forum (Dec 2019), World Congress of Neurorehabilitation (Oct 2020).
- **Speaker** at the first stroke rehabilitation workshop as part of the joint European Stroke Organization and World Stroke Organization congress in November 2020.
- Member and task-lead (funding mapping) of the **International Stroke Recovery and Rehabilitation Alliance**, an international partnership led by Julie Bernhardt (AUS).

**Details**

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